REMARKS

A. Request for Reconsideration

Applicants have carefully considered the matters raised by the Examiner in the outstanding Office Action but remain of the position that patentable subject matter is present. Applicants respectfully request reconsideration of the Examiner's position based on the amendments to the specification and claims, and the following remarks.

B. Objections to the Specification and the Amendments to the Specification

The specification has been objected for the formalities including the recitation of "claim", incorrect limitations and unconcise translation.

Applicants have amended the DISCLOSURE OF THE INVENTION part in the specification to remove the wording "claim" and replace it by "embodiment" to place it in compliance with the USPTO practice.

The specification has been further amended by adding "the snap action bimetal" to the limitation "an auxiliary positive characteristic thermistor connected parallel to the positive characteristic thermistor". Support for this

amendment can be found in Fig. 2, where it shows the the auxiliary positive characteristic thermistor (14) connected in parallel to the positive characteristic thermistor (12) **and** the snap action bimetal (18).

Further, the applicants have carefully reviewed the entire specification and amended the specification with clear and concise wordings.

It is respectfully submitted that the specification is cleared of informality issues raised by the Examiner.

C. Claim Status and Amendments to the Claims

Claims 1-4 are pending for further prosecution. Claims 5-26 have been canceled as being drawn to nonelected species.

Claim 1 has been amended to recite: "an auxiliary positive characteristic thermistor connected in parallel to the positive characteristic thermistor **and** the snap action bimetal". Support for this amendment can be found in Fig. 2.

Claim 2 has been amended into an independent claim including the limitations of Claim 1. Claim 2 has been further amended to remove the functional limitations, which have no bearings on the structures of this device claim.

No new matter was added by these amendments.

D. Prior Art Rejections under 35 USC § 103

Claims 1, 3, and 4, are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi.

The Examiner asserts that Takeuchi disclosed every and each limitations as in Claim 1 of the present invention, except the auxiliary positive characteristic thermistor connected parallel to the positive characteristic thermistor and the snap action bimetal. The Examiner further indicates it would have been obvious to a person of ordinary skill in the thermal switch art at the time of the invention to connect said auxiliary positive characteristic thermistor in parallel to the positive characteristic thermistor (1) and the snap action bimetal (3), and therefore such a modification would amount to a routine optimization of the electrical circuit. The applicants respectfully disagree.

1. The electrical structure is different

As the Examiner has recognized, in the Takeuchi, the first positive characteristic thermistor and the second positive characteristic thermistor are connected in series, while in the present invention, the positive characteristic

thermistor and the auxiliary positive characteristic thermistor are connected in parallel. In fact, the present invention recites a more specific connection, where *the auxiliary positive characteristic thermistor is connected parallel to the positive characteristic thermistor and the snap action bimetal, and the snap action bimetal connected in series to a series circuit of auxiliary winding and positive characteristic thermistor.*

Takeuchi, as shown in the Figs 5-9, discloses a starter of single-phase induction motor with a first positive characteristic thermistor (1) connected in series to the auxiliary winding (62), an second positive characteristic thermistor (2) connected parallel to a switch (3), said switch (3) connected in series to the first positive characteristic thermistor (1) and in series to the auxiliary winding (62). This is different from he present invention, not only in electrical connections, but also in the structure.

2. <u>The operation mechanism is different due to the difference in the structure.</u>

In Takeuchi, the thermo switch, which is normally closed, opens due to the heat generated at the first positive characteristic thermistor (corresponding to the

positive characteristic thermistor in the present invention). The second positive characteristic thermistor (corresponding to the auxiliary positive characteristic thermistor in the present invention) supplies the power, and keeps the thermo switch open.

In contrast, the present invention shows that the snap action bimetal opens in response to the heat of the auxiliary positive characteristic thermistor. This is due to the auxiliary positive characteristic thermistor is connected in parallel to the positive characteristic thermistor and the snap action bimetal. Therefore, the snap action bimetal can **sense the heat from the auxiliary positive characteristic thermistor and turn off when a set temperature is reached.**

3. The structure difference is not obvious to the skilled in the art

The specific struction in the present invention, where the auxiliary positive characteristic thermistor is connected in parallel to the positive characteristic thermistor and the snap action bimetal, and the snap action bimetal connected in series to a series circuit of auxiliary winding and positive characteristic thermistor is designed to remedy a problem of the previous devices as in

Takeuchi. In Takeuchi, the thermo switch may close if the temperature of the first positive characteristic thermistor lowers, and can not open until the temperature of the second positive characteristic thermistor rises. This is because, when the theremo switch opens, the current value reduces due to the second positive characteristic thermistor is in serial connection.

However, in the present invention, the heat effect of the auxiliary positive characteristic thermistor keeps the snap action bimetal open, without the risk of accidental closure as in Takeuchi.

The above differences are not routine modifications for the skilled in the art. It is respectfully submitted that Claim 1 is patentable over Takeuchi and the dependent claims 3 and 4 are also patentable for their further limitations.

E. Allowable Subject Matter

The Examiner indicates that Claim 2 is allowable if rewritten in independent form.

The Examiner further indicates, the limitation "the snap action bimetal is composed of a movable contact plate

for oscillating a movable contact point, a bimetal, and a plate spring of semicircular section interposed between first support point of the movable contact plate and second support point of the bimetal" in combination with all limitations of claims 1 renders the subject matter of claim 2 allowable over the prior art of record.

Claim 2 has been amended into an independent claim including above mentioned allowable limitations. The functional limitations have been removed. Since these functional statements have no bearings on the structures of this device claim, the allowability is preserved.

It is respectfully submitted that the claim 2 in the condition of allowance.

F. Conclusion

Applicants hereby submit that the Application is now in condition for allowance and this action is hereby requested.

Should any fees or extensions of time be necessary in order to maintain the Application in pending condition,

appropriate requests are hereby made and authorization is given to debit Account #02-2275.

Respectfully submitted,

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